NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ CLASS PERIOD: \_\_\_\_\_\_\_\_

**STUDENT HANDOUT: APPALACHIAN STREAM CONSERVATION**

**Endangered species I know about:**

**What do these species have in common?**

**How about the Eastern hellbender?**

* Very sensitive to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (breathes through its \_\_\_\_\_\_\_\_\_\_\_\_\_\_, lays eggs underwater)
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ leads to heavy \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that can eliminate good nesting habitat by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Listed as endangered or threatened by many \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ throughout its range
* Denied listing by the federal government under the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in April 2019

**What’s happening in your state?**

Here are a few examples.

**Pennsylvania**

* The Coldwater Heritage Partnership is one of many organizations offering grants for projects that prioritize freshwater conservation across PA
* Efforts include protection and replanting of riparian buffer zones, removal of invasive species, and monitoring native trout populations

A picture containing grass, sitting, old, small

Description automatically generated**Maryland**

* Maryland Biological Stream Survey
* Assesses diversity and stream health across MD
* Identifies impacts of climate change, acidic deposition, and other stressors on populations of stream species
* Conducted several times since 1995, interactive map shows status of streams across the state

**West Virginia**

* West Virginia Rivers Coalition
* Prioritizes state legislation targeting water pollution, site clean-up by bankrupted coal companies, and pipeline development projects
* Focus on community involvement and education

**Chart

Description automatically generatedVirginia**

* Fish and Wildlife Service targeting 3 main watershed areas: Upper Clinch River, Upper James River, and Upper Roanoke River.
* Chosen for the large number of threatened and endangered species that live there
* Efforts include livestock exclusion fences, creation of wooded buffer zones, and stabilizing stream banks.

**Kentucky**

* A close up of a desert field

  Description automatically generatedKentucky Stream Team program (KY Fish and Wildlife Resources)
* Qualifying landowners receive free repairs to eroding and unstable streams
  + Constructing new stream channels
  + Installing rock or wood structures to direct flow and reduce erosion
  + Planting trees

**North Carolina**

* North Carolina Land and Water Fund
* Projects focus on:
  + Restoring degraded streams (preventing bank erosion, repairing and protecting riparian buffer zones)
  + ****Stormwater treatment to protect habitats downstream from urban areas

**Tennessee**

* The Nature Conservancy’s Tennessee River and Cumberland River program
* Focus on:
  + Removing aquatic barriers like dams
  + Improving agricultural practices to lessen their impact on streams

**What are some common themes across these different states when it comes to stream conservation and restoration? What are some practices that you notice are similar from state to state?**

Write them here!